

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE MATTER OF THE PCT NATIONAL PHASE PATENT APPLICATION

OF: Jens KAHLE

USSN: to be assigned - new

FILED: May 13, 2005

USPS EXPRESS MAIL

EV 511 024 338 US

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FOR: Measuring Device for Determining
the Mass Rate of Flow of a Mass Flow

Int. App. No.: PCT/EP2003/012646

Int. App. Filed: 12 November 2003 (12.11.2003)

MS PCT
COMMISSIONER FOR PATENTS
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450

May 13, 2005

INFORMATION DISCLOSURE STATEMENT

Dear Sir:

- 1) Pursuant to 37 C.F.R. 1.56, 1.97 and 1.98 applicants are enclosing a Form PTO-1449, copies of references AH to AJ and AM, English Abstracts of references AH to AM, and a copy of the English version of the International Search Report issued in the corresponding PCT International Application PCT/EP2003/012646 on February 5, 2004. Copies of references AA to AF are not (and need not be) enclosed, because these references are US Patent Publications. Copies of references AG, ~~AK~~ and AL are not (and need not be) enclosed, because these references were cited in the International Search Report, which was forwarded with copies of the references directly to the USPTO in the International Phase of the PCT application.

- 2) This Information Disclosure Statement is being filed on the same date as the application and entry of the US National Phase, and thus requires no fee.
- 3) References AA to AG are in English. References AH to AM are accompanied by English abstracts. References AH, AI and AM are discussed in the specification at pages 2 to 5. The enclosed Search Report indicates the degree of relevance of references AG, AK and AL cited in the International Search Report by category (X = relevant for anticipation or obviousness when considered alone; A = technological background, general state of art). Thereby, a concise explanation of the relevance has been provided (see M.P.E.P. §609). Nonetheless, references AJ and AL are discussed below since these references were used by the German Examiner in initially rejecting the original German claims 1 to 11. However, the German Examiner ultimately allowed original German claims 1 to 11 without any amendments on the basis of a discussion of references AJ and AL. US claims 12 to 22 are based on the original German claims 1 to 11 in that order.
- 4) Reference AJ (DE 39 40 576 C2) describes an apparatus for measuring a mass flow by applying the Coriolis principle. A measuring wheel is driven with a constant rpm by an electric motor. The measuring wheel deflects the bulk materials. A measuring gear drive is arranged between the electric drive motor and the drive shaft of the impeller wheel functioning as the measuring wheel. A measuring gear is arranged between the electric drive motor and the drive shaft of the impeller wheel. The measured value acquired by the measuring gear drive is

proportional to the feed advance rate of the bulk material. A hydrodynamic coupling is arranged between the drive wheels for compensating the support or bearing friction. The hydrodynamic coupling is achieved in that gaps provided between the gear wheels are filled with oil whereby the drive spur gear wheel operates with a substantially higher rpm than the power take off spur gear wheel of the impeller wheel. This hydrodynamic coupling is temperature dependent. Therefore the measuring accuracy is also temperature dependent. Reference AJ does not provide any suggestions regarding a rotatably mounted support sleeve (4) that surrounds the drive shaft (3) of the impeller wheel (2) and is separately driven but with the same constant rpm as the drive shaft (2).

- 5) Reference AL (DE 199 05 951 A1) discloses a mass flow measuring device that uses the Coriolis principle. The impeller wheel is driven through a rigid drive shaft by an electric motor with a constant rpm. The drive shaft is supported in the area of the impeller wheel by an air bearing which is substantially free of friction. The drive motor is positioned vertically below the impeller wheel and props itself vertically through a central ball bearing relative to a stationary housing whereby the drive motor is rotatable relative to the stationary housing. The motor props itself tangentially with a lever arm on a force measuring device. A cross spring element pivot joint is provided in the area of the force measuring device below the motor ball bearing. This cross spring element pivot joint (16, 17) is positioned between two sleeves (15, 18) for preventing zero point deviations and radial displacements. These sleeves (15, 18) are substantially

stationary. Therefore, the above remarks regarding reference AJ apply equally to reference AL.

- 6) The Examiner is respectfully requested to consider all references of record, return an initialed copy of the enclosed Form PTO-1449 and ensure that all references of record are printed on any patent issuing from this application.
- 7) Favorable consideration and allowance of all present claims 12 to 22 are respectfully requested.

Respectfully submitted,

Jens KAHLE

Applicant

WGF:hc/4860/PCT
Encls.:
postcard, Form PTO-1449,
English Version of
Int. Search report,
6 English Abstracts,
4 references

By



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Sheet 1 of 1
**FIRST IDS LIST OF REFERENCES
 CITED BY APPLICANT
 (FORM PTO-1449)**
DATED: May 13, 2005

Atty. Docket No.
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Serial No. 35023
 to be assigned

Applicant: Jens KAHLE

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 May 13, 2005

Art Unit:

U. S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NO.	DATE	NAME	Cl.	Sub- Cl.	Fil. Date
	AA	4,574,896	03/1986	Friedrich	-	-	-
	AB	4,700,578	10/1987	Fassbinder	-	-	-
	AC	5,088,331	02/1992	Fassbinder	-	-	-
	AD	5,191,802	03/1993	Fassbinder	-	-	-
	AE	2004 0011142	01/2004	Brotzmann et al.	-	-	-
	AF	6,705,171	03/2004	Toerner	-	-	-

FOREIGN PATENT DOCUMENTS

		DOCUMENT NO.	DATE	COUNTRY	Cl.	Sub- Cl.	Trans.	
							Yes	No
	AG	739 840	11/1955	Great Britain	-	-	Engl.	
	AH	33 46 145	07/1985	Germany	-	-	Abst =AA	
	AI	35 07 993	09/1986	Germany	-	-	Abst =AB	
	AJ	39 40 576	06/1991	Germany	-	-	Abst =AC	
	AK	0 474 121	03/1992	Europe	-	-	Abst =AD	
	AL	199 05 951	08/2000	Germany	-	-	Abst =AF	
	AM	100 41 433	03/2002	Germany	-	-	Abst =AE	

OTHER DOCUMENTS

EXAMINER'S SIGNATURE

DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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